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Letter to the Editor

Comment on "Predictive value of 18F-FDG PET/CT on survival in locally advanced rectal cancer after neoadjuvant chemoradiation"

Dear Editor,

Niccoli Asabella et al[1] recently published a very interesting study to investigate the prognostic value of FDG PET in patients with locally advanced rectal cancer (LARC) treated with neoadjuvant chemoradiotherapy[1]. In the last years, many phase III trials and meta-analyses have demonstrated the efficacy of preoperative radiotherapy to increase clinical outcomes. Adding chemotherapy to radiotherapy has been reported to induce significant tumor downstaging and downsizing, with a pathologic complete response observed until 30% of patients[2]. The positive results of neoadjuvant radio (chemo-) therapy are replicable in clinical setting including in elderly patients[3,4]. One of key clinical question is how to deal with these patients with a complete response. A growing number of studies showed that pathological downstaging was related to better long-term prognosis[5], to the point where in clinical complete responders omission of surgery can also lead to equivalent long-term results[6]. From this consideration follows that it becomes more important to detect clinical response. Unfortunately, with classical clinical imaging (morphological magnetic resonance, computed tomography, endoscopic ultrasound or rectoscopy) tumour-restaging accuracy decreases increasing pathological complete response. It is well known that this is mainly a result of radio-chemotherapy-induced changes in the tissue surrounding the tumour and residual suspicious lymph nodes[7]. A functional imaging, as a FDG PET or a dynamic contrast enhanced-MRI, could be superior to CT and morphological MRI in predicting response to preoperative multimodal treatment of locally advanced primary rectal cancer[8]. In Niccoli Asabella et al[1] study, a PET analysis was performed using a visual response assessment and semiquantitative analysis using standardized uptake values: maximum and mean. Reading PET data could be very interesting to know if there is really a high concordance between definition of PET complete response and pathological definition using a PET response index greater than 65%. Whether a concordance was confirmed, it would be consistent with other literature data and it could be used to stratify, at early time, patients with a complete response. Obviously, if we identify this subset of patients with good clinical response sooner, we will modify clinical management of these patients to avoid over- or under-treatment and we can identify patients suitable for conservative approaches. Another very important problem is the correlation between clinical and pathological response and patient outcome. As to improve assessment of achievements in this study, it could be interesting obtain some more information by authors about the correlation between PET findings, clinical variables as tumour length and maximal diameter and pathological evaluation. Furthermore, it could be interesting know if all ten patients with a pathological complete response had a complete response in PET and similar clinical characteristics. Differently than other literature data[5,8], in this the overall survival and the disease-free survival in clinically and pathologically complete response were shorter than in the other group. This result should be analysed in greater detail: it could suggest a non-concordance between clinical and pathological data or otherwise, it could suggest a different adjuvant approach between responders and no-responders. It is all speculation; however, authors suggest that pathological response evaluated with tumour regression grade (TRG) is

Corresponding Author: Francesco Fiorica, MD, Ph.D; e-mail: francesco.fiorica@aulss9.veneto.it

not a complete parameter to predict outcome. A complete evaluation of all clinical parameter, including functional parameters with PET and with dynamic contrast enhanced-MRI could predict pathological parameters and it has the potential to decisively influence further therapy management in primary and recurrent tumour[9], as the therapeutic regimen can be individually optimized according to the metabolic information gained. PET evaluation before and after neoadjuvant radio-(chemo) therapy should be explored more deeply.

Conflict of interest

The authors declare no conflicts of interest.

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F. Fiorica[1], G. Anania[2]

[1]Department of Radiation Oncology and Nuclear Medicine, State Hospital "Mater Salutis AULSS 9 Legnago (VR), Italy
[2]Department of Morphology, Experimental Medicine and Surgery, Section of General and Thoracic Surgery, University of Ferrara, Ferrara, Italy